

# SAFETY DATA SHEET

According to UK REACH Regulation and GB CLP Regulation (retained EU law as amended)

## Product: AHK-Cu 100mg Lyophilised Powder

Version 1.0 | Revision Date: 1 September 2026

**FOR LABORATORY RESEARCH USE ONLY — NOT FOR HUMAN OR ANIMAL USE**

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

|                        |                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------|
| Product name           | AHK-Cu (Copper tripeptide-3)                                                                 |
| Product description    | AHK-Cu 100mg Lyophilised Powder                                                              |
| Product type           | Substance (copper-binding tripeptide complex)                                                |
| CAS No.                | 767286-83-9                                                                                  |
| Molecular formula      | C15H24CuN6O4                                                                                 |
| Molecular weight       | 415.9 g/mol                                                                                  |
| Synonyms               | Copper tripeptide-3; Ala-His-Lys copper(II) complex; AHK copper; Tripeptide-3 copper complex |
| Sequence / composition | Ala-His-Lys (complexed with Cu2+)                                                            |
| UFI                    | Not applicable (not classified as hazardous; no Unique Formula Identifier required)          |

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended use:** Laboratory chemical for scientific research and in-vitro investigation only. Intended users: trained laboratory personnel in a controlled research setting.

**Uses advised against:** Not for human or animal use, consumption, administration, therapeutic, diagnostic or medicinal purposes. Not intended for food, feed, cosmetic, household, veterinary or clinical use. Not a licensed medicine.

#### 1.3 Details of the supplier of the safety data sheet

|          |                                                                               |
|----------|-------------------------------------------------------------------------------|
| Supplier | Peptide Origin Limited                                                        |
| Address  | College House, 17 King Edwards Road, Ruislip, London, HA4 7AE, United Kingdom |
| Email    | sales@peptideorigin.com                                                       |
| Website  | www.peptideorigin.com                                                         |
| Role     | Supplier of the safety data sheet / distributor of the research material      |

#### 1.4 Emergency telephone number

Contact sales@peptideorigin.com during UK business hours. For medical emergencies or immediate danger, contact local emergency services (999 in the United Kingdom). NHS 111 is available for non-emergency medical advice in the UK. No 24-hour product-specific emergency number is operated by the supplier.

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification according to GB CLP Regulation: **Not classified**. No physical, health or environmental hazard classifications meet the criteria based on available data. The toxicological profile of this research peptide has not been fully investigated.

#### 2.2 Label elements

No hazard pictogram, signal word, hazard statement or precautionary statement is required according to available data. Recommended laboratory precautionary statements (voluntary): P260 Do not breathe dust. P280 Wear protective gloves/eye protection. P264 Wash hands thoroughly after handling. P501 Dispose of contents/container in accordance with local regulations.

#### 2.3 Other hazards

This substance/mixture does not meet the criteria for PBT or vPvB. No other hazards known under normal laboratory handling conditions. Lyophilised powder may cause mechanical irritation if it contacts eyes or respiratory tract. Residual process-related substances such as trifluoroacetate counter-ions and residual solvents may be present at levels below classification thresholds. Handle as a bioactive research material of incomplete toxicological characterisation.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Lyophilised copper(II) complex of the tripeptide L-alanyl-L-histidyl-L-lysine. Identity as stated by the supplier; confirm against the batch Certificate of Analysis.

| Component                                                                                                                                    | CAS No.     | Content                    | Classification (GB CLP) |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------|-------------------------|
| AHK-Cu (Copper tripeptide-3)<br>Ala-His-Lys·Cu <sup>2+</sup> ; C <sub>15</sub> H <sub>24</sub> CuN <sub>6</sub> O <sub>4</sub> ; 415.9 g/mol | 767286-83-9 | 100 mg per vial (labelled) | Not classified          |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Trace process residues (for example trifluoroacetate and residual solvents from peptide synthesis) may be present below classification thresholds.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Inhalation:** Move to fresh air. If breathing is difficult, seek medical attention.

**Skin contact:** Wash with plenty of soap and water. Remove contaminated clothing. Seek medical advice if irritation persists.

**Eye contact:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.

**Ingestion:** Rinse mouth with water. Do not induce vomiting. Seek medical attention. Never give anything by mouth to an unconscious person.

### 4.2 Most important symptoms and effects

May cause mild mechanical irritation to eyes, skin or respiratory tract. No specific target-organ effects established. Full acute and chronic effects have not been characterised.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No specific antidote is known. Show this Safety Data Sheet to the attending physician.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable: water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Unsuitable: none known for this material in small laboratory quantities.

### 5.2 Special hazards arising from the substance or mixture

Thermal decomposition may produce carbon oxides, nitrogen oxides and copper oxides. Copper-containing residues should be treated as metal-containing waste.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus and full protective equipment. Prevent fire-fighting water from entering drains.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions

Avoid dust formation. Wear PPE (see Section 8). Ensure adequate ventilation. Evacuate unprotected personnel from the immediate area.

### 6.2 Environmental precautions

Prevent entry into drains, surface water or soil. Inform the relevant authority if a significant release occurs.

### 6.3 Methods for cleaning up

Sweep or vacuum up carefully without generating dust. Place in a labelled, closed container for disposal. Clean residual traces with a damp cloth. Do not use compressed air.

### 6.4 Reference to other sections

See Section 8 and Section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Handle in accordance with good laboratory practice and COSHH principles. Avoid contact with skin, eyes and clothing. Avoid inhalation of dust. Do not eat, drink or smoke in the work area. Wash hands after handling. Allow refrigerated or frozen vials to reach room temperature before opening to prevent condensation on the powder.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in the original tightly closed vial, protected from light and moisture. Recommended storage of the sealed lyophilised product: -20 °C. Keep away from strong oxidising agents, strong acids and strong bases. After reconstitution, refrigerate (2–8 °C), protect from light, and avoid repeated freeze–thaw cycles.

### 7.3 Specific end use(s)

For laboratory research use only. Not for human or animal use.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

No workplace exposure limits have been established in Great Britain (EH40) for this substance or its peptide components.

### 8.2 Exposure controls

**Engineering controls:** Use in a well-ventilated laboratory. Use a fume hood or local exhaust if dust or aerosols may be generated.

**Eye/face protection:** Safety glasses with side shields conforming to EN 166.

**Hand protection:** Chemical-resistant gloves (nitrile recommended) conforming to EN 374. Inspect gloves before use and replace if damaged.

**Skin protection:** Laboratory coat and closed footwear.

**Respiratory protection:** Not normally required for handling an intact vial. Use a P2 particulate filter respirator if dust is generated.

**Environmental exposure controls:** Do not allow release to drains or the environment.

**Hygiene:** Wash hands before breaks and after work. Do not pipette by mouth.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                                       |                                                                                            |
|---------------------------------------|--------------------------------------------------------------------------------------------|
| Physical state                        | Solid (lyophilised powder)                                                                 |
| Colour / appearance                   | Blue to blue-violet lyophilised powder (colour from the copper complex)                    |
| Odour                                 | Odourless or nearly odourless                                                              |
| Odour threshold                       | No data available                                                                          |
| Melting / freezing point              | No data available                                                                          |
| Boiling point                         | Not applicable (solid; decomposes before boiling)                                          |
| Flammability                          | Not classified as flammable. Combustible organic solid in principle.                       |
| Explosive / oxidising properties      | Not classified. No data available.                                                         |
| Flash point / auto-ignition           | No data available / not applicable                                                         |
| pH                                    | No data available (solid). Aqueous solutions expected near neutral depending on salt form. |
| Solubility                            | Soluble in water and aqueous buffers (typical for research peptides)                       |
| Partition coefficient n-octanol/water | No data available                                                                          |
| Vapour pressure / density             | Not applicable / no data available                                                         |
| Particle characteristics              | Lyophilised cake or powder; particle size not specified                                    |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No hazardous reactivity known under recommended storage and handling conditions.

### 10.2 Chemical stability

Stable as a lyophilised solid when stored as recommended. Aqueous solutions are less stable and should be used promptly.

### 10.3 Possibility of hazardous reactions

No hazardous polymerisation expected. Avoid contact with strong oxidisers.

### 10.4 Conditions to avoid

Excessive heat, moisture, prolonged light exposure, repeated freeze–thaw of solutions.

### 10.5 Incompatible materials

Strong oxidising agents, strong acids and strong bases.

### 10.6 Hazardous decomposition products

Thermal decomposition may produce carbon oxides, nitrogen oxides and copper oxides. Copper-containing residues should be treated as metal-containing waste.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in GB CLP

Acute toxicity (oral, dermal, inhalation): No data available.

Skin corrosion/irritation: May cause mild mechanical irritation.

Serious eye damage/irritation: May cause mild mechanical irritation.

Respiratory or skin sensitisation: No data available.

Germ cell mutagenicity: No data available.

Carcinogenicity: No data available. Not listed by IARC, NTP or UK carcinogen classifications on the basis of available information.

Reproductive toxicity: No data available.

STOT-single exposure / STOT-repeated exposure: No data available.

Aspiration hazard: Not applicable to a lyophilised solid.

### 11.2 Information on other hazards

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated. This material is a bioactive research peptide and must be handled with appropriate laboratory precautions. No endocrine-disrupting properties have been established.

## SECTION 12: Ecological information

### 12.1–12.4 Toxicity / Persistence and degradability / Bioaccumulative potential / Mobility in soil

No specific ecological data available. Peptides are generally expected to be biodegradable, but this has not been demonstrated for this product. Do not discharge into the environment, drains or watercourses.

### 12.5 Results of PBT and vPvB assessment

Not considered PBT or vPvB based on available information.

### 12.6 Endocrine disrupting properties

No data available.

### 12.7 Other adverse effects

No data available. Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Dispose of contents and container in accordance with local, regional, national and international regulations, including the UK Hazardous Waste Regulations where applicable. Do not dispose into drains or the environment. Contaminated packaging should be treated as unused product. Waste code to be assigned by the waste producer in accordance with the List of Wastes (England) / WM3 guidance. Recommended laboratory practice: collect unused powder and empty vials as chemical waste for licensed disposal.

## SECTION 14: Transport information

### 14.1–14.7 Transport classification

Not classified as dangerous goods for transport under ADR/RID (road/rail), IMDG (sea) or IATA (air) on the basis of available data.

UN number: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not classified as a marine pollutant

Special precautions for user: Transport in the original sealed packaging. Protect from heat and moisture. Keep the research-use-only labelling intact.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Compiled in accordance with UK REACH (retained Regulation (EC) No 1907/2006 as amended) and the GB CLP Regulation (retained Regulation (EC) No 1272/2008 as amended), including the information requirements of REACH Annex II as applicable in Great Britain. This product is supplied solely for laboratory research and development. It is not placed on the market as a substance or mixture for consumer use, as a biocidal product, as a cosmetic, as a food or feed additive, or as a medicinal product. It is not subject to authorisation under UK REACH for the identified laboratory research use. Users are responsible for compliance with COSHH (Control of Substances Hazardous to Health Regulations 2002, as amended) and with any applicable export-control or licensing requirements.

### 15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this substance/mixture.

## SECTION 16: Other information

### 16.1 Other information

The information provided in this Safety Data Sheet is based on our current knowledge at the date of revision and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not be construed as a warranty of any specific property of the product or as a specification. Peptide Origin Limited makes no warranty, express or implied, regarding accuracy or completeness. The user is solely responsible for determining the suitability of this material for a specific intended use and for compliance with all applicable laws and regulations.

**Recommended use statement:** For laboratory research use only. Not for human or animal consumption, therapeutic, diagnostic or veterinary use.

**Version:** 1.0 **Revision date:** 1 September 2026 **Supersedes:** first issue

**SDS compiled by:** Peptide Origin Limited

**Key literature / basis:** supplier product identifiers; published chemical identity data; GB CLP / UK REACH Annex II structure. Hazard classification reflects absence of sufficient data to classify, not a demonstration of non-hazard.

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— End of Safety Data Sheet —

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